The Internet with ISDN

by Kevin Savetz

Sooner or later, we all succumb to The Feeling. We try to be calm, we take deep breaths and count to ten. Patience is a virtue, we tell ourselves. Good things come to those who wait.

But these rationalizations do little good. Eventually, we all give in, screaming at our intrepid modem, "Hurry up, you obsolete bit-pushing paperweight!"

Our modems are too slow. You don't have to be a multimedia maven to be a victim of this sentiment—regular people, not just the gurus uploading 40-meg QuickTime movies—are stricken with The Feeling.

Everyone feels it. While cruising those pretty, graphics-laden Web sites. While downloading software. While playing Bolo. But the modem—that piece of hardware that uses analog signals to connect you to the Internet—can only take you so far.

Sure, you can upgrade, as I did, to a 28.8k bps, v.everything modem. But The Feeling will return, and soon that screamer will become, in your eyes, as fast as molasses during a freeze.

You've gone as far as analog will take you—is it time to switch over to ISDN? ISDN—Integrated Services Digital Network—is a service that will let you connect to the Internet (or any other service that supports it) at up to 128k bps, about nine times faster than a 14.4k bps modem.

ISDN certainly isn't as fast as the ultra-high-speed Internet connections sported by many large businesses and universities, but for a small office, or even a single power user, it moves data around the Net at a very respectable clip.

Crossing the Limit

My home office is wired for ISDN. Now that everything is set up, configured and tested, I couldn't be happier. Getting everything set up, configured, and tested, however, was another story. I've heard some real horror stories about getting ISDN Internet service to work. In my experience, it wasn't that bad. But the process does require patience and money. One of the major benefits of ISDN is that you can connect an entire local area network, rather than a single PC, as with an analog modem. This involves putting all your computers on an Ethernet, then linking the ISDN modem—er, router—to the Ethernet.

My burgeoning home office sports a trusty Mac, a grudging Pentium, and a laptop. The laptop included built-in Ethernet. The PC and the Mac did not—I slapped a couple of Ethernet cards into the machines and configured them. An Ethernet hub (about $120) rounds out the mess of new cabling showering my desk.

I spent about about $100 each on Ethernet cards for my Mac and PC. You can get them cheaper, but I can't bring myself to trust a $20 computer board.

At the business end of my little Ethernet network is an ISDN router. When I try to access the Internet from any of the connected computers, the router wakes up, logs me in to my Internet Service Provider (ISP) in about three seconds, and I'm on the Internet. It feels like a permanent Internet connection—when I need it, it's there. When I stop using it for a certain amount of time, it silently disconnects.

Choices

Now, there are other ways to go about this. If you only want to hook one PC to the network via ISDN, you can get an external serial port device or an internal ISDN adapter card. The former acts like a conventional modem—you dial out (using MacPPP, or Internet Chameleon, for instance), connect to the Internet, and cruise.

The downside of this is that your serial port can be a bottleneck—on most computers, serial ports don't crunch happily above about 57,000 bits per second. If you have a 128k bps connection to the Internet, you won't feel the magic; your serial port just can't go that fast. On the upside, serial port ISDN hardware is relatively cheap—around $500.

The other way to connect, via an ISDN adapter card, offers the best of both worlds. It's a card that you plug into your computer—it does the business of routing your packets around via ISDN, but since it usurps your PC's serial port, there's no pesky 57k bps speed limit. Remember, though, that this method is only good for connecting a single computer. Adapter cards cost between $800 and $1000.

The method I chose, an external ISDN router, was the most expensive (I spent around $1,300 for the unit and the Ethernet equipment I needed), but it's the only way to connect multiple computers. If I had three arms, I could cruise the Web from all three machines at once, sharing the bandwidth between them.

Configuring the router wasn't nearly as easy as plugging in a modem and typing "ATDT". (Remember the first time you configured your PC to talk with SLIP or PPP? It's much worse than that.) If you've never configured a router before, expect it to take a few hours, and hope for a patient tech support person at your ISP.

Other Parts of the Puzzle

It takes more than hardware to get on the Internet with ISDN. Your phone company provides the actual ISDN service. ISDN works over the regular telephone wires already in your home or office. Much like a standard phone line, your telephone company needs to come to your home, install a jack, and test it.

Unlike adding regular phone line, you may (as I did) have to wait several weeks before an ISDN-savvy installer arrives at your door. Once he arrives, expect to spend some quality time with the telephone man. My installer was here for over three hours before he was convinced that everything was working properly.

The cost for ISDN service depends on your telephone company—as they say, your mileage may vary. Pacific Bell charges a modest setup fee, plus a reasonable monthly rate of less than $30 per month. With Pac Bell, ISDN is a "measured rate" service; you pay for every minute you're online, even if you are making a local call. At a penny a minute, though, the price is fair.

Finally, you'll need a place to connect to—an Internet Service Provider that provides ISDN access. The cost of this varies considerably from ISP to ISP. My Service Provider, Santa Cruz, California-based Scruz-Net, charges a reasonable price—a "part-time connection" costs $175 per month for unlimited connect time at 128k bps. A "full-time connection" (for businesses or people running a server, who need a constant connection) runs $310 per month, plus a $570 setup charge.

(By the way, Scruz-Net provides first-rate service. The staff is helpful, and the connection is unparalleled. I'm not just telling you this because they provide me with a gratis account.)

Just the Beginning

ISDN can do much more than connect you to the Internet. Armed with the right equipment, you can use it to make standard voice phone calls, send faxes, or even call your favorite BBS. ISDN can even do two things at once. You can send a fax to one place and receive a fax from another, or utilize a 56k bps Internet connection, while taking a voice call. If you actually want to do these tricks, it will cost you more.

Getting Internet access via ISDN is moderately expensive, a little frustrating, and takes longer than you'd expect to get it working the first time. However, if you need a fast Internet connection, it's absolutely worth it.

Kevin Savetz
(savetz@northcoast.com) is a computer technology writer living in Northern California with a menagerie of animals and computers.